



*Protecting and Restoring the Santa Barbara Channel and its Watersheds*

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May 25, 2009

Attn: Ms. Mary Adams  
Central Coast Regional Water Quality Control Board  
895 Aerovista Place, Suite 101  
San Luis Obispo, CA 93401

**Re: Proposed Revisions to the 303(d) List of Impaired Water Bodies for the Central Coast Region**

Dear Ms. Adams,

**General Comments**

Channelkeeper is generally very pleased with the Regional Boards efforts to update the State's 303(d) list. This update represents the best attempt Channelkeeper has witnessed thus far at compiling and analyzing multiple data sets to systematically identify and document water quality impairments throughout the region. We commend Dave Paradise and Regional Board staff for developing the data scanning tool that made this analysis possible. Channelkeeper hopes that these efforts will serve to make future 303(d) list updates and other analyses more efficient and effective.

*Hammonds Beach and Carpinteria State Beach Fecal Coliform De-listings*

Channelkeeper strongly opposes the de-listing of Hammonds Beach for fecal coliform. According to the Regional Board's fact sheets, the decision to de-list Hammonds Beach for fecal Coliform was made by comparing AB 411 data from 2004 to 2006 to the Ocean Plan fecal coliform criteria for Water Contact Recreation. Channelkeeper notes that this is an inaccurate and inappropriate comparison. AB 411 data is collected by the Santa Barbara County Public Health Department Beach Monitoring Program. This program uses the IDEXX Colilert-18 method to analyze water samples for E. Coli. E. Coli results are then presented as fecal Coliform results. E. Coli is a subset of fecal Coliform. The fecal Coliform family includes additional species other than E. Coli. The true fecal coliform concentration is inherently at least as high as the E. Coli result, but there may be other fecal Coliform present. The IDEXX Colilert-18 method does not identify additional fecal Coliform species. Therefore, although it may be appropriate to list a water body for fecal Coliform when E. Coli results exceed applicable fecal Coliform standards, it is not an appropriate comparison to base a de-listing decision on.

If we may propose an analogy using M&Ms: Let us assume that the State passes a law that a person can only consume ten M&Ms per day but they devise a monitoring program that only counts the green ones. If monitoring determines that an individual has

consumed ten green M&Ms, then we can be assured that the person is over their limit. However, if monitoring determines that an individual has consumed only five green M&Ms, we can not conclude that they are not over their limit. There are many other colors in the bag.

Channelkeeper demands that the Regional Board conduct additional data analysis based on accurate data comparisons before Hammonds Beach is delisted for fecal Coliform.

#### *Interpreting Narrative Objectives for Biostimulatory Substances*

Channelkeeper strongly supports the Regional Board's decision to develop a numeric evaluation criterion to interpret the Basin Plan Water Quality Objective for biostimulatory substances. Tetrattech's Numeric Nutrient Endpoint technical approach represents the most substantive effort that we are aware of to identify numeric criterion for nitrate to protect aquatic life uses. The existing Basin Plan nitrate objective to protect domestic and municipal water supplies is not protective of aquatic ecosystems, and the lack of such a numeric criterion for nitrate has been one of the most critical limitations of the existing Plan. Channelkeeper supports the use of the 1.0 mg/L nitrate as N as a criterion to protect aquatic life beneficial uses for the purposes of this 303(d) list update. We also recommend that the Regional Board consider incorporation of this criterion into the next Basin Plan update.

*Missing Datasets* - Channelkeeper is disappointed that at least two major water quality datasets have not been included in this evaluation.

The Santa Barbara Coastal Long Term Ecological Research program out of the University of California Santa Barbara has been compiling stream chemistry data throughout Santa Barbara coastal drainage area since the year 2000. This dataset includes literally thousands of data points of multiple analytes including nitrate, ammonium, total dissolved nitrogen, phosphorus, particulate organic carbon, total suspended sediments, and conductivity. The majority of this data is available publically in accordance with a data use agreement.

The City of Santa Barbara also has an extensive creek monitoring program that has compiled years of pertinent water quality data. The City conducts regular monitoring throughout multiple watersheds to measure indicator bacteria levels, nutrient concentrations, and standard water quality parameters. This is all public information that would be extremely valuable to the 303(d) revision process.

Channelkeeper strongly recommends that the Regional Board contact both of these entities during the next stage of 303(d) revisions to incorporate these valuable datasets into the process.

*Enterococcus Evaluation Criteria* – The Regional Board has consistently used the USEPA single sample maximum allowable density for enterococcus in marine waters of 104 MPN/100ml as an evaluation criterion for creeks throughout the region. These are freshwater systems. The most protective USEPA freshwater beach single sample maximum allowable density is 61 MPN/100ml, and this value should be used as the

evaluation criteria for creek listings. However, to further demonstrate that these proposed listings are justified, Channelkeeper has applied the most lenient allowable density of 151 MPN/100ml cited in the USEPA Ambient Water Quality Criteria for bacteria for fresh waters with infrequent full body contact recreation to the dataset that was submitted to the Regional Board for evaluation. In nearly every case, creeks with proposed enterococcus listings still qualify as impairments based on the State's binomial theorem listing policy. These cases have been mentioned below.

### **Additional recommendations for specific water bodies**

Channelkeeper has compiled a list of comments and recommendations, provided below, regarding a subset of water bodies and proposed listings throughout the Central Coast Region. The list of proposed changes to the 303(d) list is very extensive.

Channelkeeper's comments are primarily limited to water bodies and proposed listings that Channelkeeper can offer informed input based on our monitoring programs and experiential knowledge of this region. Please note, that a lack of mention of any proposed listings in the following pages does not constitute a lack of support for such listings. Generally Channelkeeper supports the Regional Board's efforts to document water quality impairments on the 303(d) list that are based on credible water quality monitoring data and sound evaluation criteria.

### **The Goleta Slough**

#### **Recommendation:**

*List for sedimentation/siltation* – Channelkeeper recommends that the Regional Board consider listing the Goleta Slough for sedimentation or siltation. The Goleta Slough was previously removed from the 303(d) list for this impairment in 2006 because the Regional Board considered the existing lines of evidence “faulty data”

The Fact Sheet associated with the original de-listing decision suggests that the Slough was originally placed on the 303(d) List because staff observed erosion and sedimentation in the 1980s. Had staff made any attempt to make similar observations today, or to consult with any local experts, or to review any of the numerous scientific studies addressing the massive sedimentation problem in the Slough, it would not have proposed to de-list the Slough for sedimentation. To provide just one example, Mark Holmgren, Associate Director of the Center for Biodiversity and Ecological Restoration at UCSB, notes in his assessment of beach sediment deprivation that sedimentation continues to be a problem in the Slough that affects not only the estuary but the long-shore transport of sediments to down-coast beaches. Mr. Holmgren has a series of photos (see Exhibit A) taken throughout the 1990s documenting the conversion of pickleweed marsh in the Slough to upland habitat due to rapid sedimentation and the multiple obstructions within the estuary that, if removed, could assist sediment transport from the slough.

Despite this evidence, the most glaring and obvious reason *not* to de-list the Slough for sedimentation is the fact that the County of Santa Barbara invests between \$250,000-\$500,000 a year to remove excess sediment in the Slough. Failure to remove these sediments would lead to the rapid collapse of flood control systems in Goleta. Clearly the

County would not be spending this large sum of money to conduct routine dredging if sedimentation were not a problem in the Slough today.

### **Atascadero Creek**

Atascadero creek provides multiple benefits to the communities of Santa Barbara, Santa Barbara County, and Goleta. A heavily used bike path and trail provides convenient access to Atascadero creek throughout nearly its entire length. Atascadero creek supports diverse riparian plant and animal communities. It is used by community members on a daily basis for recreation that includes both contact and non-contact activities. The Atascadero Creek Watershed ranks fourth out of 24 on a list of creeks for steelhead recovery potential in a study conducted by the Conception Coast Project in Southern Santa Barbara<sup>1</sup>. Atascadero Creek is also a tributary to the Goleta Slough which drains to Goleta Beach where contact recreation regularly occurs. It is extremely important that impairments identified through water quality monitoring activities are included on the revised 303(d) list. Channelkeeper supports all of the proposed listings for Atascadero creek.

#### Recommendation:

*List for nitrate.* - Channelkeeper also recommends that the Regional Board list Atascadero Creek for nitrate impairment. Eighty-one of 203 nitrate results submitted by Channelkeeper to the Regional Board exceed the 1mg/l evaluation criterion used to interpret the narrative Basin Plan objective for biostimulatory substances for other water bodies in the Central Coast Region. Atascadero Creek is influenced by discharges from agricultural fields, green houses, equestrian areas, and Cieneguitas Creek. All of these discharges are potential sources that contribute to nitrate impairment.

#### Channelkeeper particularly supports the following listings:

*E. Coli* - Channelkeeper supports this proposed listing. This listing is supported by Channelkeeper's water quality monitoring data, which has been used as a line of evidence to support this listing. We note that 25 out of 165 Atascadero Creek sample results that Channelkeeper submitted to the Regional Board also exceed the most lenient allowable density of 576 MPN/100ml cited in the USEPA Ambient Water Quality Criteria for Bacteria for fresh waters with infrequent full body contact recreation. Based on these results, Atascadero Creek should clearly be listed for E. Coli.

*Enterococcus* - Channelkeeper supports this proposed listing. This listing is supported by Channelkeeper's water quality monitoring data, which has been used as a line of evidence to support this listing. We note, that 45 of 163 Atascadero Creek sample results that Channelkeeper submitted to the Regional Board also exceed the most lenient allowable density of 151 MPN/100ml cited in the USEPA Ambient Water Quality Criteria for enterococcus bacteria for fresh waters with infrequent full body contact recreation. Based on these results, Atascadero Creek should clearly be listed for Enterococcus.

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<sup>1</sup> Stoecker, M.W. 2002. Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California. Conception Coast Project. June, 2002.

*Low dissolved oxygen* - Channelkeeper supports this proposed listing. This listing is supported by Channelkeeper's water quality monitoring data, which has been used as a line of evidence to support this listing. In June of 2007, a fish kill event occurred in the Goleta Slough in front of the mouth of Atascadero Creek. This event was documented by the local news media and Santa Barbara Channelkeeper. The event was also reported by Channelkeeper to Regional Board staff. Channelkeeper's July and August monitoring events from 2007 documented dissolved oxygen concentrations below 1.5 mg/l at the mouth of Atascadero Creek.

*Temperature* - Channelkeeper supports the proposed listing for temperature. Significant stretches of Atascadero Creek have been historically modified for flood control purposes and converted to concrete channels. Channel modifications combined with the removal of tree canopy within the historic riparian zone has resulted in an increase in stream temperature. Channelkeeper believes that opportunities to restore tree canopy and natural stream conditions exist along Atascadero Creek to help address anthropogenic increases in temperature.

### **Cieneguitas Creek**

Cieneguitas creek has been heavily impacted by urbanization and channel alterations for flood control purposes. Despite these impacts, Cieneguitas Creek contains segments of valuable riparian habitat in the City of Santa Barbara and Santa Barbara County. Multiple agencies including the Santa Barbara Flood Control District, La Cumbre Water District, Vieja Valley School and the Urban Creeks Council have conducted habitat restoration projects along Cieneguitas Creek. Portions of the creek run through residential neighborhoods and are readily accessible from community bike and walking paths. Cieneguitas Creek is a tributary to Atascadero Creek, which ultimately drains to Goleta Beach. Channelkeeper supports all of the proposed listings for Cieneguitas creek.

### Recommendation:

*Nitrate* – Channelkeeper recommends that the Regional Board list Cieneguitas Creek for nitrate impairment. Fifty of 56 sample data points submitted by Channelkeeper to the Regional Board exceed the 1mg/l evaluation criterion used to interpret the narrative Basin Plan objective for biostimulatory substances for other water bodies in the Central Coast Region. Cieneguitas Creek is influenced by runoff from urban, residential, agricultural, and equestrian areas. All of these discharges are potential sources that contribute to nitrate impairment.

### Channelkeeper particularly supports the following listings:

*E. Coli and Enterococcus* - Channelkeeper supports these proposed listings. These listing are supported by Channelkeeper's water quality monitoring data, which have been used as lines of evidence to support these listings. **In 2008, Channelkeeper discovered an illegal sewer connection to Cieneguitas Creek.** Faulty renovations at the Sansum Medical Clinic resulted in the direct connection of a clinic toilet to an underground, channelized portion of Cieneguitas Creek. Channelkeeper worked with the City of Santa Barbara to eliminate this source of pollution, however, our monthly sampling still indicates that impairments for both E. Coli and Enterococcus still exist.

Channelkeeper notes that even when the most lenient allowable densities of *E. Coli* and *Enterococcus* cited in the USEPA Ambient Water Quality Criteria for Bacteria for fresh waters with infrequent full body contact recreation are applied, Cieneguitas Creek still qualifies as impaired based on the State's binomial theorem listing policy.

### **Glen Annie Canyon**

Glen Annie Canyon (also known as Glen Annie Creek or Tecolotito Creek) provides significant ecological and community benefits to residents of Goleta and Santa Barbara County. Although extended segments of Glen Annie Creek have been impacted by urban and agricultural encroachment, this water body supports an extensive amount of riparian habitat and associated plant and animal species. Glen Annie Creek is also a tributary to the Goleta Slough which drains to Goleta Beach where contact recreation regularly occurs. Glen Annie Creek is also diverted for municipal and domestic water supply. Channelkeeper supports all of the proposed listings for Glen Annie creek.

#### Channelkeeper particularly supports the following listings:

*Nitrate* – Channelkeeper strongly supports the existing listing for nitrate in Glen Annie Creek. Glen Annie creek exceeds the nitrate water quality objective for municipal and domestic supply and biostimulatory substances

*E. Coli and Enterococcus* - Channelkeeper supports these proposed listings. These listing are supported by Channelkeeper's water quality monitoring data, which have been used as lines of evidence to support these listings.

Channelkeeper notes that even when the most lenient allowable densities of *E. Coli* and *Enterococcus* cited in the USEPA Ambient Water Quality Criteria for Bacteria for fresh waters with infrequent full body contact recreation are applied, Glen Annie Creek still qualifies as impaired based on the State's binomial theorem listing policy.

### **Los Carneros Creek**

Los Carneros creek provides significant ecological and community benefits to residents of Goleta and Santa Barbara County. Although extended segments of Los Carneros Creek have been impacted by urban and agricultural encroachment, this water body supports an extensive amount of riparian habitat and associated plant and animal species. Los Carneros Creek is also a tributary to the Goleta Slough which drains to Goleta Beach where contact recreation regularly occurs.

#### Recommendation:

*List for Conductivity* – Thirteen of 49 Los Carneros Creek water quality measurements submitted by Channelkeeper to the Regional Board exceeded the evaluation criterion of 3.0 mS/cm to protect agricultural beneficial uses. Channelkeeper recommends that Los Carneros Creek be placed on the 303(d) list for conductivity impairment.

#### Channelkeeper particularly supports the following listings:

*E. Coli and Enterococcus* - Channelkeeper supports these proposed listings. These listings are supported by Channelkeeper's water quality monitoring data, which have been used as lines of evidence to support these listings.

Channelkeeper notes that even when the most lenient allowable densities of *E. Coli* and *Enterococcus* cited in the USEPA Ambient Water Quality Criteria for Bacteria for fresh waters with infrequent full body contact recreation are applied, Los Carneros Creek still qualifies as impaired based on the State's binomial theorem listing policy.

*Nitrate* – Channelkeeper strongly supports the listing of Los Carneros Creek for nitrate. Los Carneros Creek exceeds the water quality objective for municipal and domestic supply and biostimulatory substances.

### **Maria Ygnacio Creek**

Maria Ygnacio Creek provides significant ecological and community benefits to residents of Goleta and Santa Barbara County. This creek runs extensively through multiple residential neighborhoods, community parks, and local schools. It is readily accessible to local residents for contact and non-contact forms of recreation. A biking and walking path extends along a significant portion of this creek. Maria Ygnacio creek is known to support populations of steelhead trout. Stoeker, 2002 compiled years of steelhead observations throughout South Santa Barbara County watersheds. The report documents multiple accounts from the Department of Fish and Game, aquatic biologists, and local community members of steelhead observations in Maria Ygnacio Creek up to 2002 when the report was published. Maria Ygnacio Creek is a part of the Atascadero Creek watershed which was ranked fourth out of 24 local creeks for steelhead recovery potential (Stoeker, 2002).

Channelkeeper particularly supports the following listings:

*E. Coli and Enterococcus* - Channelkeeper supports these proposed listings. These listings are supported by Channelkeeper's water quality monitoring data, which have been used as lines of evidence to support these listings.

Channelkeeper notes that even when the most lenient allowable densities of *Enterococcus* cited in the USEPA Ambient Water Quality Criteria for Bacteria for fresh waters with infrequent full body contact recreation are applied, Maria Ygnacio Creek still qualifies as impaired based on the State's binomial theorem listing policy.

### **San Jose Creek**

San Jose Creek provides significant ecological and community benefits to residents of Goleta and Santa Barbara County. This creek runs extensively through multiple residential neighborhoods, community parks, and local schools. It is readily accessible to local residents for contact and non-contact forms of recreation. A number of walking trails exist along San Jose Creek that are regularly used by local residents. San Jose Creek ultimately drains to Goleta Beach where contact recreation frequently occurs.

Santa Barbara County Water Resource Agency published the San Jose Creek Watershed Plan<sup>2</sup> in 2003. The plan identifies a number of restoration opportunities throughout the San Jose Creek watershed. Many of these projects have already been implemented by community groups such as the Santa Barbara Audubon Society and the Santa Barbara Urban Creeks Council. The plan also identifies a number of water quality concerns caused by pesticide and fertilizer use along the creek, pet waste, urban storm runoff, nonpoint source pollutants, septic systems, dredging, and leaking underground fuel tanks.

A significant community restoration effort is currently underway to promote the recovery of steelhead trout in San Jose Creek. The City of Goleta is in the process of refining designs for a major fish passage improvement project for the lower  $\frac{3}{4}$  mile portion of San Jose Creek. Stoeker, 2002 compiled years of steelhead observations throughout South Santa Barbara County watersheds. The report documents multiple accounts from the Department of Fish and Game, aquatic biologists, and local community members of steelhead observations in San Jose Creek up to 2002 when the report was published. San Jose Creek ranked sixth out of 24 local creeks throughout southern Santa Barbara County for steelhead recovery potential (Stoeker, 2002).

It is extremely important that impairments identified through water quality monitoring activities are included on the revised 303(d) list. Channelkeeper supports all of the proposed listings for San Jose creek.

#### Recommendations:

*Nitrate* – Channelkeeper recommends that the Regional Board list San Jose for nitrate impairment. Fifty-eight of 73 sample data points submitted by Channelkeeper to the Regional Board exceed the 1mg/l evaluation criterion used to interpret the narrative Basin Plan objective for biostimulatory substances for other water bodies in the Central Coast Region. San Jose Creek is influenced by runoff from urban, residential, agricultural, and equestrian areas. All of these discharges are potential sources that contribute to nitrate impairment.

#### Channelkeeper particularly supports the following listings

*E. Coli and Enterococcus* - Channelkeeper supports these proposed listings. These listing are supported by Channelkeeper's water quality monitoring data, which have been used as lines of evidence to support these listings.

Channelkeeper notes that even when the most lenient allowable densities of *Enterococcus* cited in the USEPA Ambient Water Quality Criteria for Bacteria for fresh waters with infrequent full body contact recreation are applied, San Jose Creek still qualifies as impaired based on the State's binomial theorem listing policy.

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<sup>2</sup> County of Santa Barbara Water Resources Agency. 2003. San Jose Creek Watershed Plan. Prepared by Padre Associates, Inc. January 2003.



## **San Pedro Creek**

San Pedro Creek provides significant ecological and community benefits to residents of Goleta and Santa Barbara County. This creek runs extensively through multiple residential neighborhoods, community parks, and local schools. It is readily accessible to local residents for contact and non-contact forms of recreation. A number of un-official walking trails have been worn along the banks of San Pedro Creek in various residential locations indicating that it is regularly accessed by local residents for recreation. San Pedro Creek ultimately drains to Goleta Beach where contact recreation frequently occurs.

It is extremely important that impairments identified through water quality monitoring activities are included on the revised 303(d) list. Channelkeeper supports all of the proposed listings for San Pedro creek.

### Recommendations:

*List for Trash* - Channelkeeper recommends that the Regional Board list San Pedro Creek for trash. Channelkeeper regularly hosts creek cleanups along San Pedro Creek downstream of Hollister Avenue. The attached photos (Exhibit B) depict the quantity of trash that volunteers gathered from San Pedro Creek at each event.

*Nitrate* – Channelkeeper recommends that the Regional Board list San Pedro Creek for nitrate impairment. Thirteen of 31 sample data points submitted by Channelkeeper to the Regional Board exceed the 1mg/l evaluation criterion used to interpret the narrative Basin Plan objective for biostimulatory substances for other water bodies in the Central Coast Region. San Pedro Creek is influenced by runoff from urban, residential, agricultural, and equestrian areas. All of these discharges are potential sources that contribute to nitrate impairment.

### Channelkeeper particularly supports the following listings:

*E. Coli and Enterococcus* - Channelkeeper supports these proposed listings. These listing are supported by Channelkeeper's water quality monitoring data, which have been used as lines of evidence to support these listings.

Channelkeeper notes that even when the most lenient allowable densities of Enterococcus cited in the USEPA Ambient Water Quality Criteria for Bacteria for fresh waters with infrequent full body contact recreation are applied, San Pedro Creek still qualifies as impaired based on the State's binomial theorem listing policy.

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Thank you for your careful consideration of these comments.

Respectfully,

Ben Pitterle  
Watershed Programs Director  
Santa Barbara Channelkeeper

## **Exhibit A**

# Sediment series I 11 March 1995



To respond to problems at Goleta Beach we need think in a larger context. We need to recognize the relationship of the beach to the larger organ -- the estuary and the watershed. The seriousness of the sedimentation of Goleta Slough is shown in the next 5 images. Prior to the flood event of 1995, this area shown under mud here was *Salicornia* marsh a couple of days previous. Flood waters carrying sediment topped the berm as the channel was unable to contain the flow volume. As soon as the muddy waters broke over the bank, the rate of flow dropped and, because fast moving water carries sediment, the sediment dropped out of suspension and settled over the *Salicornia* marsh.

## Sediment series II 4 May 1996



This load apparently brought seeds and sprouts from upland vegetation. The level of the soil is now above that at which tides can exert their effects and the process of 'Uplandization' begins. Fourteen months after the March 1995 flood that muddy area has now colonized with shrubby upland growth.



# Sediment series III 30 March 1997



Shrubs in the deposition area and along the banks of the channel are increasing. You can now see the types of plants that have colonized – willows!

# Sediment series IV 27 Nov 1999



Two years after the previous photo we see a nearly mature willow forest with exotics. A forest has formed where salt marsh was prior to 1995.



# Sediment series V 29 Nov 2001



Two more years later, Willows and *Baccharis* now dominate and a totally new kind of habitat is installed. The insidious aspect is that this new habitat serves as an even more effective sediment trap for subsequent silt carrying flood events. Goleta Slough is a highly effective sediment trap. The problems at Goleta Beach must be viewed in light of, and remedied in concert with, problems in the estuary and the watershed. Emergency action is needed here because if we can bring our combined forces together to solve this problem, then we may make headway on not only the sand loss problems at Goleta Beach but on other beaches downcoast.

# 2 March 1998



What does this have to do with Goleta Beach? Enormous amounts of sediment that would reach the beach and the long-shore current are instead trapped in the estuary. The two berms shown here constrain the outflow resulting in sedimentation in the basins seen in the foreground. The photographer of the previous five images turns around 180° and sees this. Looking from UCSB toward the mouth with Goleta Beach Park on the distant right we can view yet another aspect of the problems associated with infilling of the estuary. Two berms cut into the tidal channel, one at the bike bridge (blue arrow), the other closer to the viewer (red arrow). As sediment-laden flood waters approach these two berms, passage of water is slowed and the sediment drops out filling in the areas as shown here. The proposed 2nd slough mouth would be placed where the closer berm with the red arrow is visible. Through a new slough mouth sediment-laden waters would escape the impounded area and drain to the beach at the up coast end of the county park, hopefully assisting with beach replenishment. Also, mechanical removal of sediment in the estuary could be achieved more easily using this artificial opening. To accommodate the 2nd mouth, Highway 217 would have to be placed on a causeway.





**Figure 4.** The upper photo shows dredging operations on the Atascadero branch of the Goleta slough on January 20, 2005, following storms earlier in the month. The lower photo shows beach replenishment at Goleta Beach on the same day. Removal of sediment, and its transport to Goleta Beach, is an almost annual occurrence. Failure to remove the immense volumes of sediment deposited in Goleta streams by annual storms would lead to rapid failure of the area's flood control system.



**Figure 5.** The upper photo shows storm flow in Atascadero Creek (at Patterson Avenue) on January 9, 2005. Sediment concentrations during storms can range up to 66 g/L. Measured concentrations in Atascadero, during a storm on March 4, 2001, were 9 g/L. The lower photo shows sediment deposition west of the bicycle bridge after the January 9, 2005 storm.





**Figure 6.** The upper photo shows sediment-laden storm flow in Franklin Creek during a storm on March 15, 2003. Sediment concentrations ranged up to 10 g/L during this event. The lower photo shows channel cleaning operations in Franklin Creek in April 2001 following the large storm of March 3-4, 2001. This is the sediment from a single large event. Deposited sediment volumes from large storms are almost unread, demonstrating a substantial and ongoing sedimentation problem for the Carpinteria Salt Marsh (the main tributaries of which are Franklin and Santa Monica creeks).

## **Exhibit B**

## **Channelkeeper San Pedro Creek Cleanup Events – 2007 and 2008**



**January 22, 2007 - San Pedro Creek Cleanup**



**May 6, 2008 - San Pedro Creek Cleanup**





**May 6, 2008 - San Pedro Creek Cleanup**



**May 6, 2008 - San Pedro Creek Cleanup**